

REPORT ON BOILERS.

No. 64917

Received at London Office 15 JAN 1942

Date of writing Report 19 12 When handed in at Local Office 12 19 42 Port of Glasgow

No. in Reg. Book. 38803 Survey held at Glasgow Date, First Survey 3: 10: 40 Last Survey 5: 1: 42

on the S.S. "Umaria" (Number of Visits 49) Tons Gross 6852
Net 4004

Master Glasgow Built at Glasgow By whom built Barclay Curle & Co Ltd Yard No. 684 When built

Engines made at Glasgow By whom made Barclay Curle & Co Ltd Engine No. 684 When made

Boilers made at do By whom made do Boiler No. do When made

Nominal Horse Power 630 Owners British India Steam Navigation Co Ltd Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Cochrane Ltd (Letter for Record S)

Total Heating Surface of Boilers 8344 sq ft Is forced draught fitted Ys Coal or Oil fired coal

No. and Description of Boilers 4 Single Ended Working Pressure 250 lb

Tested by hydraulic pressure to 425 lb Date of test 25.9.41 No. of Certificate 20893 Can each boiler be worked separately Ys

Area of Firegrate in each Boiler 52 sq ft No. and Description of safety valves to each boiler 2 Improved Safety Lift

Area of each set of valves per boiler per Rule 4.7 as fitted 6.28 sq ft Pressure to which they are adjusted 250 lb Are they fitted with easing gear Ys

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler Ys

Smallest distance between boilers or uptakes and bunkers or woodwork will clear Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating Is the bottom of the boiler insulated

Largest internal dia. of boilers 14'-0" Length 11'-6" Shell plates: Material S Tensile strength 29.33 Tons

Thickness 1 7/8" Are the shell plates welded or flanged No Description of riveting: circ. seams DR. 5 rule

long. seams DBS. TR Diameter of rivet holes in circ. seams 9/16" long. seams 9/16" Pitch of rivets inter. 4.09" plate 10 3/4"

Percentage of strength of circ. end seams plate 61.7 rivets 48.3 Percentage of strength of circ. intermediate seam plate 85.4 rivets 86.0

Percentage of strength of longitudinal joint plate 85.4 rivets 86.0 combined 88.0 Working pressure of shell by Rules

Thickness of butt straps outer 3/16" inner 1/16" No. and Description of Furnaces in each Boiler 3 Dugton

Material S Tensile strength 26.30 Tons Smallest outside diameter 41 1/4"

Length of plain part top 23" bottom 31" Thickness of plates top 23" bottom 31" Description of longitudinal joint weld

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules

End plates in steam space: Material S Tensile strength 26.30 Tons Thickness 1 29/64" Pitch of stays 18 1/2" x 21"

How are stays secured double nuts Working pressure by Rules

Tube plates: Material front S back S Tensile strength 26.30 Tons Thickness 1 31/64"

Mean pitch of stay tubes in nests 9.45" Pitch across wide water spaces 14" Working pressure front back

Girders to combustion chamber tops: Material S Tensile strength 28.32 Tons Depth and thickness of girder

at centre 2 @ 10 3/4" x 2 1/8" Length as per Rule 38 25/32" Distance apart 6 5/8" + 7 3/4" No. and pitch of stays

in each 3 @ 9 1/2" Working pressure by Rules

Tensile strength 26.30 Tons Thickness: Sides 3/4" Back 3/4" Top 3/4" Bottom 7/8"

Pitch of stays to ditto: Sides 8 1/4" x 9 1/2" Back 8 1/4" x 9 1/2" Top 9 1/2" x 7 3/4" Are stays fitted with nuts or riveted over into

Working pressure by Rules

Front plate at bottom: Material S Tensile strength 26.30 Tons

Thickness 1" Lower back plate: Material S Tensile strength 26.30 Tons Thickness 29/32"

Pitch of stays at wide water space 14" Are stays fitted with nuts or riveted over into

Working Pressure

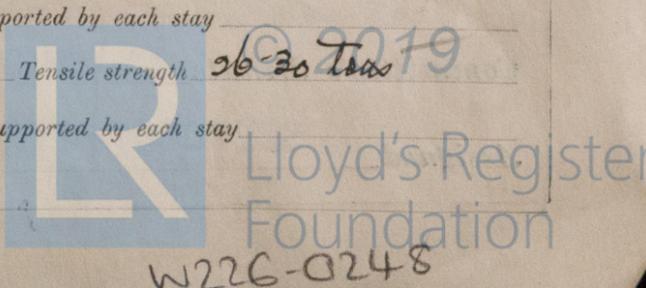
Main stays: Material S Tensile strength 28.32 Tons

Diameter At body of stay, or Over threads 3 5/8" No. of threads per inch 6 Area supported by each stay

Working pressure by Rules

Screw stays: Material S Tensile strength 26.30 Tons

Diameter At turned off part, or Over threads 1 1/8" No. of threads per inch 9 Area supported by each stay



Working pressure by Rules _____ Are the stays drilled at the outer ends *No.* Margin stays: Diameter { At turned off part, *2"* or Over threads *2"* ✓

No. of threads per inch *9.* Area supported by each stay _____ Working pressure by Rules _____

Tubes: Material *S* External diameter { Plain *3"* Stay *3"* Thickness { *3/8"* *1/2"* *5/8"* No. of threads per inch *9.*

Pitch of tubes *4 1/8" x 4 1/4"* Working pressure by Rules _____ Manhole compensation: Size of opening in shell plate *21" x 7"* Section of compensating ring *13 x 1 1/2"* No. of rivets and diameter of rivet holes *40 @ 1 1/2"*

Outer row rivet pitch at ends *10 3/4"* Depth of flange if manhole flanged *4 3/8"* Steam Dome: Material *Iron.*

Tensile strength _____ Thickness of shell _____ Description of longitudinal joint _____

Diameter of rivet holes _____ Pitch of rivets _____ Percentage of strength of joint { Plate Rivets _____

Internal diameter _____ Working pressure by Rules _____ Thickness of crown _____ No. and diameter of stays _____ Inner radius of crown _____ Working pressure by Rules _____

How connected to shell _____ Size of doubling plate under dome _____ Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell _____

Type of Superheater

Manufacturers of { Tubes Steel forgings Steel castings

Number of elements _____ Material of tubes _____ Internal diameter and thickness of tubes _____

Material of headers _____ Tensile strength _____ Thickness _____ Can the superheater be shut off and the boiler be worked separately _____ Is a safety valve fitted to every part of the superheater which can be shut off from the boiler _____

Area of each safety valve _____ Are the safety valves fitted with easing gear _____ Working pressure as per Rules _____ Pressure to which the safety valves are adjusted _____ Hydraulic test pressure: _____

tubes _____ forgings and castings _____ and after assembly in place _____ Are drain cocks or valves fitted to free the superheater from water where necessary _____



Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with _____

The foregoing is a correct description,
Alexander Macneil Manufacturer.

Dates of Survey { During progress of work in shops - - } Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
while building { During erection on board vessel - - }
SEE ACCOMPANYING MACHINERY REPORT.
Total No. of visits _____

Is this Boiler a duplicate of a previous case _____ If so, state Vessel's name and Report No. _____

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

These boilers have been built under special Survey & in accordance with the Rules. The materials & workmanship are good. The safety valves have been adjusted. The boiler examined under steam and found in order.

Survey Fee ... *See Survey Report* } When applied for, 19
Travelling Expenses (if any) £ ... } When received, 19

For Barrow for *A. J. Brown & P. Gibbeson*
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 13 JAN 1942** *Jmk.*

Assigned **SEE ACCOMPANYING MACHINERY REPORT.**

